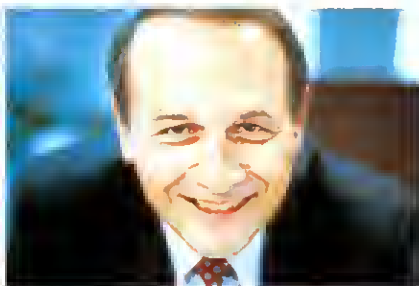# AMIGA CD FORMAT

AMIGA CD³²™

JVC

32bit

20 fact packed pages on Commodore's kicking new console

Tech Specs ● CD³² Game previews ● The History of Amiga CD

TECH SPECS

Richard Baguley and Toby Simpson look at the
specifications of the CD32 on   page 4

LEW EGGEBRECHT
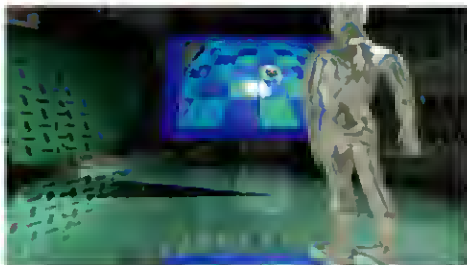
Commodore's vice president of engineering on
the exciting new machine   page 5

AMIGA

THE GAMES - 10 PAGES OF ESSENTIAL CD

Will the new and improved *Pinball Fantasies*
cause yet more disruption in the AF office?

Lawnmower Man is being developed for some CD formats. Is
CD^{32} going to be one of them?

Will *Jurassic Park* be the CD^{32}'s first major film licence suc-
cess, or its first turkey?

THE AMIGA FORMAT CD^{32} SUPPLEMENT

FROM CDTV TO CD³²

Read all about the history of the Amiga and CD, and what led to CD³²   page 16

DAVID PLEASANCE

Commodore's general manager tells you why the CD³² is a Mega CD beater   page 19

Welcome to our 20 page look at Amiga CD³². We've talked to the people who count, looked inside the machine, and played the games. So read on to discover the best games machine in the world...

SOFTWARE PREVIEWS BEGIN ON   Page 6

Syndicate has already caused a storm on the A1200, can it do the same on CD³²?

Flair's *Oscar* is a colourful and cute platfarmer, but can it offer anything new?

Can Millennium's *Diggers* be as fab as their *Robocod AGA* (also available on CD³²)?

What new tricks can the ball of clay get up to in *Putty 2*, especially since it's on CD³²?

THE AMIGA FORMAT CD³² SUPPLEMENT

There has been endless speculation over the last few months about what's going to be the next addition to the Amiga range. Rumours varied from a 68060-based graphics workstation to a new portable. However, Commodore decided to take on console giants with a C0-based games console. Of course, we know it's an Amiga 1200 in disguise, but don't tell everybody...

If you want to find out what's really inside a machine like this, the best person to speak to is the chap who designed it. So, we asked Lew Eggebrecht, the vice president of engineering for Commodore International, to tell us what's what in Commodore's latest creation.

It all began with the completion of the design of the AGA chip set in the late summer of 1992. Lew says: "We had a chip set that was fully functional, very cost effective and 32-bit.. so we started converting our entire product line. Finally, we said 'What are we going to do about this CDTV product?' It was doing well against CD-i, but that wasn't saying a lot. We concluded that we wanted to build a games console which would play games and also be on interactive multimedia player.

"So, in mid to late summer, we began to talk to several of the key (games) developers in the UK, saying 'We have this technology, what do you do want?' The consensus came back – stick with games, it's gotta be CD-based, it's gotta be 32-bit, but the key point was the price. We had to have a price that was competitive with 16-bit technology today.

"We then went back and wrote a design specification in late September, and also established that we could achieve the price point. By late October, we were off and running. The most challenging part was developing the gate array called Arizona (later called Akiko), which would collect all of the various signals and take over the functions of many of the chips on earlier Amigas. We had the first prototype chip of this running in the first week of January, and by the end of February we had 15 prototypes of the CD³² which went to developers."

SO WHAT HAPPENS TO THE A1200 AND A4000 OWNERS?

A1200 – Old technology? And will there be a CD³² add-on for it?

The CD³² is basically an A1200 without a floppy drive or keyboard in a different box. So, are we likely to see a CD add-on for the A1200 and A4000?

"I have the development schedule for the CD-ROM interface and drive for the A1200," says Lew Eggebrecht. "It looks like it will be available late this autumn. It will connect to the A1200 via the CPU slot in the bottom of the machine, and will include the Akiko chip on the interface." Unfortunately, this means you won't be able to have both the CD-ROM drive and a memory expansion card or accelerator in the same machine. You will also need to upgrade to Kickstart and Workbench 3.1 to use the interface, and these will be released with the interface in the autumn.

Will there be an A4000 version? "Initially it will be for the A1200 only," Lew says, "but it may be followed shortly by an A4000 version. We have not established a development schedule, but the A4000 model will probably be a little later. The next version of the software will also support a SCSI CD-ROM drive."

The Amiga CD³² is without doubt the next giant leap for the Amiga range, but what do all the bits do? Let **Richard Baguley** and Commodore's VP of engineering **Lew Eggebrecht** (pictured left) take you on a guided tour of the innards of the all-new Amiga CD³².

Tech

THE INS AND OUTS OF AMIGA CD³²

GAME CONTROLLER/ MOUSE PORTS
According to Eggebrecht: "One of the extensions to the operating system allows it to sense the type of equipment which is connected to the system, and de conversions from mouse to pointer, and so on."

So, it's possible to use conventional peripherals such as mice or joysticks with games that use them.

EDGE CONNECTOR
Almost every signal that goes through the machine is available on this connector, meaning that you could, in theory, connect anything from hard disks to accelerators to this port. Eggebrecht explains: "It's a generalised interface for video and audio applications. Obviously, the MPEG unit (see Movies on a disk box) requires access to the Video and Audio bus, and this is provided by the edge connector."

POWER/SWITCH
The CD32 gets it's power through this 4 pin DIN plug. The supply has a lower output than a standard Amiga box, so fewer peripherals can be powered. The power on/off switch is immediately adjacent to this.

RF OUT
The CD32 can be connected to any domestic TV tuned to channel 36 (adjustment to other channels is possible) by means of a standard co-axial video lead.

KEYBOARD/SERIAL PORT
"This is a generalised multiplex serial interface. It doesn't necessarily assume there is a keyboard connected to it, although it is compatible with an A4000 style keyboard," Eggebrecht says. So, given that it's a multi purpose interface, are Commodore working on anything to use it?

"At this time, we have no specific plans that I can talk about," he replies. "But we can generally assume that it will be a port for virtual reality type applications. You could also use a Modem."

Are Commodore working on a separate keyboard for use with the CD32?

"We are relying on third party developers to provide peripherals for this machine. We have no plans to manufacture a keyboard ourselves at this time," he concedes.

S-VIDEO PORT
"S-Video inputs are available on a lot of equipment now, and it does provide a significantly improved image. I don't know about the rest of the world, but in the US you can't buy a television without an S-Video port," says Eggebrecht.

A/V JACKS
Through the Composite socket, the CD32 can be connected to most monitors or videos, giving a better picture than using the RF socket. The audio Phono Jacks allow the CD32 to be connected directly to a domestic hi-fi set up. The unit can then be used as an audio CD player, or games and FMV disks can be amplified for optimum sound quality.

THE MEAT OF THE MACHINE

"CD32 has a complex board, but much of this circuitry is to do with mixing the Amiga and CD audio," says Eggebrecht. But why is there no quote from American band the B52's on the motherboard? "Because the developers involved in those kind of things are no longer with Commodore." Shomel

AKIKO

"This interfaces with the CD-ROM drive, it converts the serial data into parallel, separates out the data streams and does the DMA (Direct Memory Access) into the system memory. The two CIA chips are also fully incorporated into Akiko, and also has the memory array that supports the conversion of chunky graphics to bitplane. This was added at the request of our own software group, who had been writing test programs to see what sort of performance

we would get out of the machine," Eggebrecht explains.

So what would this be used for? "Most software now being developed is in standard chunky pixel mode for the PC or other platforms. When converting such an application to CD32, you get a dramatic performance improvement if you can support the conversion of chunky pixels to Amiga bitplanes in hardware."
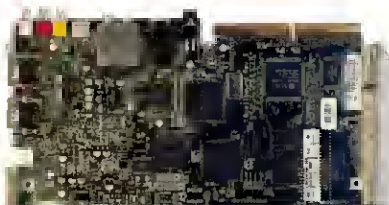
"We went back to Arisona and added this feature, and then it became Akiko. It's a 160-pin device, and has 37,000 gates. I'm really proud of the designers, as we managed to get it right first time," Eggebrecht says firmly.

KICKSTART ROM

This contains Kickstart 3.1, as well as other programs and libraries.

Eggebrecht describes it: "The CD-ROM file system is in there, we also support multi-session capability on the CD-ROM, plus we have support for the new controller, and also for trying to sense what type of device is connected.

"We have put in features that allow game developers to systematically close down the operating system, which now co-operates with them, rather than against them. We've also included a library to maintain compatibility with well behaved CDTV applications. We took the top 30 CDTV titles and tried to make these work."

CD PLAYER

"Sony made the drive, but the electronics and the microcode (programs which control the drive) were developed by us and Chinon. It's a custom interface, not SCSI or IDE. For audio CDs the CD32 acts as a full 16-bit 8X oversampling player, and the line out sockets mean it can be connected into a hi-fi system."

Talk

Toby Simpson, leading Millennium programmer, and the designer and programmer of Diggers, talks about the developers' perspective on CD32: 'The computer games industry is going through a change. It's becoming confusing to know who to support and develop for all of these various platforms. Recently, the move has been away from tra-

ditional floppy product and towards console, and PC.

"CD-based consoles offer a huge opportunity to produce vastly improved games, but at great risk to the developers.

After all, who is to say that the new CD32 will be a success? If developing a title for one of those machines was to cost tens of thousands, is it worth it?"

"Fortunately, the question of whether the CD32 will work or not is not so important as with other new platforms – because the risks at developing for it are much lower. Firstly, software houses

can use hardware they already own – which saves money. On top of that, if you write a CD32 title, your software will port nicely to the A1200 – which is a lucrative market. Any specific CD work you had done, like animations and music, could be used for other CD platforms. So, development for the CD32 has been cheap and fairly low risk. A side-effect of this is that a lot of software houses have developed for the machine."

What are the sort of things can you expect?

"Well, firstly, expect an audio treat," says Simpson. "Most computer music is composed on synthesisers, and then scaled down to work on the for-

mats it is used on. With CD titles, there is no scaling down, you can have CD-quality digital music. When you have 600Mb of space, you don't worry how much space a large intro might take, or how much space those extra 30 levels use.

'From a programmer's point of view, developing for CD32 is a dream come true. You can assume a 68020 CPU, 2Mb of RAM, Kickstart 3.1 and lots of other assorted goodies, so not only have you got the space for some pretty amazing audio and visual effects, but you have the processing power to perform them too.

"This is good for all Amiga users, especially gamesplayers."

The MPEG unit inserts neatly into the rear of the CD32.

One of the most exciting aspects of the CD32 is the MPEG (Motion Picture Expertise Group) module, which will allow you to watch movies on a CD, via the new Video CD standard.

"The Video CD standard is now being supported by all the major (CD) player manufacturers," says

MOVIES ON A DISK

Eggebrecht, "and we will be compatible with that standard."

Several of the big movie companies have already announced that films will be released on this format, and these should start appearing towards the end of the year. These will offer better picture quality than VHS, and full CD quality sound. So what is actually inside the MPEG module?

"A C-Cube chip handles the video, and a custom LSI (Large Scale Integration) chip handles the audio," Eggebrecht explains.

Compressed data for both the video and sound is read off the CD and passed to the MPEG module, where it's decompressed. Once this is done, the video and sound signals are then passed back to the main unit and out through the CD32 sound and video outputs. You can also mix MPEG video and Amiga graphics

via some circuitry on the board. The Video CD standard has been accepted by many of the major film companies, and one of the first releases will be the first episodes of the Star Trek spin-off Deep Space Nine, which should be appearing later this year.
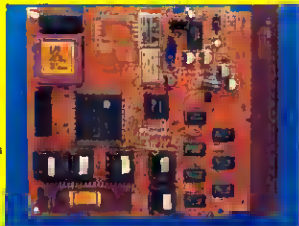
The MPEG unit is based around a C-Cube chip which handles the video and a Commodore custom chip for the sound.

What do we want from the CD32? Do we just want to be able to say to our Console owning friends, "My console is better than yours!"? And how do we define better?

The Amiga CD32 puts more colours on the screen at a better resolution, and has a faster processor than any other CD console available in the UK. So it's better, right? Right!

But Betamax was better than VHS — don't laugh, it's true. Back in the very early days of video technology, before NICAM and S-VHS and HQ and four heads, Betamax was better. So why have we all got a VHS system at home?

Because of the software, that's why. Video owners had

to make the simple choice between having the better system, with nothing to watch on it, or a slightly inferior unit with libraries packed with feature films and video nasties. I know which one I want for.

Now, over 10 years later, a similar choice faces today's technological-wave surfers. But as this new technology breaks, the Amiga CD32 is in the unrivalled position of being able to offer the best technology and the best choice of software.

The only competition it currently faces is the rather pathetic Mega CD, which has a poor selection of software, consisting almost exclusively of cartridge ports. And those

games *really* get the most out of the CD medium. I mean, come on, the average cartridge game is a half meg in size! So they add hi-fi CD-quality soundtracks, but it's a get-out, isn't it? So what's the answer?

The answer is for companies to keep their heads, and remember that playability is all-important. We don't need interactive CD movies, although they'd be nice; the technology isn't quite up to that standard yet. What we need, what we demand is good solid games with loads of colours and loads of levels. What we demand is 50 frames per second scrolling in action games, for example.

Some people are saying that CD will result in 600Mb graphic demos without any gameplay. Psygnosis' Microcosm, which we've played on the FM Towns machine, comes close to falling into this category. But this doesn't have to be the case, technological advancement isn't an enemy, it's a tool.

If programmers create great games people will buy them. The machine will be a success, everybody will be happy. It's really that simple. Will that happen? Who can say. The developers are the only people who know what's in store! So let's ask them what they plan to give us for the best little games console in the world

The Games

We've been promised that 18 games will be ready for the CD32 when it goes on sale in October. But will it happen? How many games will actually be ready by Christmas? And how good are they? **Andy Nuttall** and **Steve Bradley** have the low-down...

Bullfrog
0483 579399

Magic Carpet is the second game that Bullfrog are developing using their fractal-based 3D texture-mapped world view. It's devastatingly pretty.

Creation, the first to use the 3D graphics engine, is set underwater. "You swim with the fish, you are part of the environment," say Bullfrog.

CREATION
Creation is one of a new breed of games from Bullfrog, representing a change in direction for the team. Instead of the isometric 3D look of *Populous*, *Powermonger* and *Syndicate*, *Creation* has a first-person 3D perspective, with spectacular graphics. Set underwater, *Creation* uses a fractal-generated sub-aquatic landscape with texture-mapped 3D to create an amazing feel of depth.

Bullfrog's Peter Molyneux first got the idea for *Creation* after going scuba-diving last year. He explains about the view: "With all our other games, you stood back from the world, but with *Creation* you're actually part of the world. You get to swim around with the fish, you are part of this environment."

Although we've only seen the game running on a PC, Peter assures us that both *Creation* and *Magic Carpet* will run at the same speed on the Amiga CD32. This is mainly down to the CD32's planar chip, which quickly converts the PC VGA screen into the Amiga's bitplane format. It seems unlikely, then, that a version will be available for the non-CD Amigas.

MAGIC CARPET
Using a similar technique to *Creation*, *Magic Carpet* puts you on — yes! — a magic carpet flying over a gorgeous landscape. In that landscape you meet all sorts of challenges, such as monsters and dragons, but fortunately the carpet is armed. "The point is that you've got a realistic landscape, that you can see and feel and fly over. There's wind, there's rain, there are storms; there's sea to fly over, sky to fly through, and you must meet the challenges that the landscape throws up.

"Some people have used this technology to create things like flight simulators," says Peter, "but after all flight simulators are cold and impersonal. We really want to make it so that *Magic Carpet* is an emotional game that is accessible to anybody."
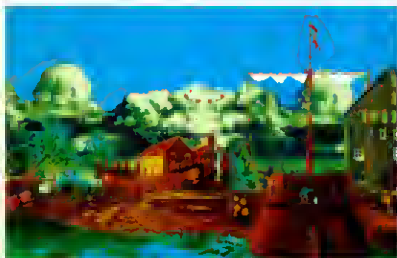
THEME PARK
Stunning though the last two games are, the game we're eagerly awaiting is *Theme Park*. Aimed at anyone who's dreamed of owning or running their own amusement park, *Theme Park* is not just cute, it's also a business simulator.

Daze Marketing
071-328 2762

This is *Patrician*, which won't be coming out on CD³², but the team that made it are working on a footy game with 'real cartoon graphics'.

Quoth Daze's main man Richard Hennerley. "I think the future of games is CD, without a doubt. It's very interesting, and a very promising machine. Hopefully, it will be associated with Amiga in people's minds, which is the next best thing.

"We are supporting the CD³² machine, with a game from the people who did *The Patrician*." He says it will be a football management game, with graphics which are created using a new technique which makes them look more like cartoon animations instead of computer graphics. Unfortunately we couldn't get Richard to commit himself to further details about the game, but he did say that (with a following wind) it will be ready by November, so he will provide us with the necessaries very soon.

Grandslam
081-680 7044
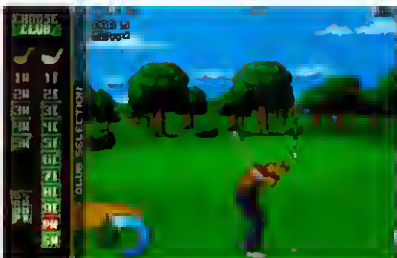
Scoring highly in its Amiga disk incarnation for combining the playability of *PGA Tour* with the looks of *Links*, *Nick Faldo* will look even better on CD³².

NICK FALDO'S GOLF
Original game reviewed AF43, FG90%

Although there is a plethora of golf games available on the Amiga, *PGA Tour* and *Links* are usually considered to be the best. *PGA Tour* for playability, and *Links* for realism. *Nick Faldo's* was judged to be a happy medium between those two games, combining speed and playability with realistic graphics.

The CD³² version of *Faldo* will take full advantage of the 256 colours on offer, and it will also include CD music and digitised voices. Whether Grandslam will get Nick to provide the voiceovers remains to be seen, though.

The most original of Bullfrog's totally astonishing line-up of coming releases, *Theme Park* combines arcade fun with business strategy.

Currently riding high at the top of the charts, *Syndicate* will be updated and enhanced for the CD³² version with heaps of clever extras.

You can build the hugest roller coaster, and charge people nothing for going in it, but at the end of the day you'll go bankrupt. Or, you can rip people off, producing small rides, but how long would you stay in business?

As well as the obvious roller coasters and waltzers, *Theme Park* also offers the visitors a Haunted House, a space shuttle simulator, and a huge number of other exciting rides. It's quite an emotional game – when you see the smiles on the little kids' faces after they've been on the rides, or a small child sobbing because he's bored or he's lost his mum, you'll know what I mean.

SYNDICATE
Original game reviewed AF49, FG91%

The original *Syndicate* put you in charge of a number of cyborg agents working for your organisation, or syndicate. Armed to the teeth with weapons like flame-throwers, mini-guns, lasers and time-bombs, your ultimate goal is world domination. This brings it into *Risk*-type territory, although even the authors of that boardgame wouldn't have dreamed of such a dark, doom-laden scenario.

Good though the Amiga version is, *Syndicate* on CD³² should blow it out of the water. Bullfrog have steered clear of a straight port from the original Amiga, and included many features which couldn't be done on a floppy version. These include rotation of the 3D perspective, so that you can look at the buildings and structures from the other sides, and also a cut-out view of any buildings which you enter. As you can see from the screenshots here, Bullfrog have utilised the Planar chip built into the CD³² machine to convert the PC hi-res screens directly on the CD version, so the graphics are sharper and clearer than off floppy.

Also in the CD version are several additions to the gameplay – which are soon to

became available for the original game in the form of a data disk. First you will be able to disguise your agents as civilians, so your enemy won't recognise you and take action, and secondly you will have three new weapons at your disposal, as follows.

There's a hand-grenade, which you can lob over buildings; a Napalm gun, a nasty cross between a Gauss gun and a flame-thrower which explodes and carries on burning for 10 minutes of real time, then there's the Air Strike – simply activate a radio transmitter and nine aeroplanes will strafe the surround area, totally annihilating it!
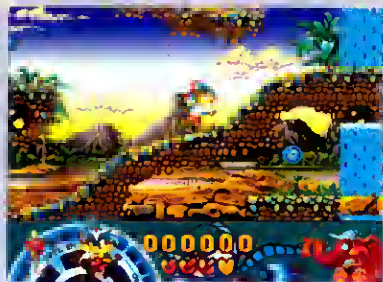
You might be thinking there's a certain influence from a popular Sega game here somewhere, and you wouldn't be at all wrong...

Flair

0661 860260

OSCAR

A chipmunk with an attitude, Oscar stars in the follow up to *Trolls*, a colourful platform game which scored 80 per cent in Issue 44 of **Amiga Format**. The graphics are gorgeous.

The aim is to move Oscar through several film scenarios, to collect miniature Oscar awards. After collecting a certain number, he can then progress on to one of the other six scenes, including Cartoon Capers, Wild West World, or Jurassic Pranks. You may be thinking that the story's a bit like *Premiere* from Core Design, and you'd be right. The gameplay, though, is different, and is set to blow the average console romp out of the frame.

Oscar will be released in late September.

WHALE'S VOYAGE

Original game reviewed AF47, 80%

This is a sprawling role-playing game. Although it seems very difficult to get into, our reviewer said: "If you can crack the hard shell, you will find a wealth of enjoyment on the inside."

Our main criticism of the game was the incredible number of disk swaps when playing from floppy – but of course on the CD32 this won't be a problem. Out in October, the CD version will otherwise be similar to the floppy.

1869

Original game reviewed AF46, FG90%

This is a trading game set at the time of the opening of the Suez Canal, which apparently was the year that marked the decline of the sailing ship and the growth of steam ships. If you're used to modern-day trading, this is an eye-opener,

...but where's the harm in a little 'influence' on the game style? *Oscar* promises not only these luverly graphics, but some solid gameplay too.

because it's amazing how ruthless the 19th-century traders could be. It's not only a good game, it's also an accurate simulation!

Like *Whale's Voyage*, *1869* will be released on CD32 in October, and will be similar to the floppy game.

SURF NINJAS

Based around the forthcoming Leslie Nielsen film of the same name, *Surf Ninjas* is about two ninja brothers who move from the South China seas to California. Apparently a band of rival ninjas follow them, and Flair think that their ensuing exploits on Venice Beach are a natural setting for a game. Hmm.

Anyway, lots of punching, kicking and surfing is necessary to get the brothers back to South China (although quite how they 'surf' across the Pacific Ocean remains to be seen), and you must free some people and solve puzzles in places with names like 'Sri wan' and 'Mee-grob'. Released in October.

ADVENTURES IN TIME

This is the codename for a game which Flair are developing with a licence in mind. It features a time traveller who zooms between time zones, including Jurassic and Medieval, and has to deal with the problems she encounters. Flair won't say what the licence is just yet, but a speculator might suggest that it may be something like *The Time Tunnel* (popular Sixties American sci-fi series), or *Quantum Leap* (popular Nineties sci-fi series).The game should be released some time in October.

GENESIS

Lastly, a November release from Flair will be *Genesis*, a huge adventure game which incorporates a lot of digitised and real-time video footage. Colin Courtney of Flair told us that because of this, *Genesis* is "unique in that it couldn't be done on floppy". More details about this game in next month's issue.

MicroProse

One of the most widely-respected software producers in the industry is firmly behind the CD32, and wishes to produce games for it. However, they are experiencing some difficulties. We spoke to Alison Fennah, PR Manager at MicroProse.

"We are currently looking at the possibility of producing a selection of new games and some MicroProse classics for the CD32, namely *The Legacy, Formula One Grand Prix, Civilization, Gunship 2000* and *B17 Flying Fortress*.

'Before developing them there are technical issues to consider. For example, an other formats some of these games have given the player a save game option – imagine trying to start *Civilization* from scratch each time when you've been used to saving games from the Bronze Age

through to the Space Age! Saving games becomes difficult with a CD32 as the machine has only 1K of non-volatile RAM. We have to decide whether to change or adapt these features (for example, with a password system) in order to maintain and improve the quality of the game. Another solution would be to support an external

MicroProse wish to convert AGA *Civilization* for the CD32, but how could you save games?

disk drive, but we have yet to hear anything from Commodore on this subject.

"We're very keen to support the machine, but publishers need more information, and quickly, otherwise we'll see a repeat of the Mega CD – here's the machine but where are the games? Get going, Commodore!"

Similarly, they've promised us *F1GP* provided Commodore help with a proper Save feature.

Gremlin Graphics 0742 753423

ZOOL

C'mon, does Zool really need an introduction? You really don't know what Zool is? A fast-paced action-packed rollercoaster of a platform game, that's what Zool is.
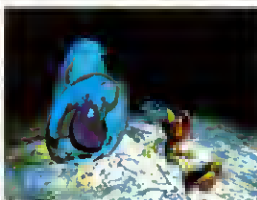
Compared by some to the excellent Sonic the Hedgehog on the Mega Drive, this is an unfair comparison because when Zool gets going, he's even faster than the spiky blue one. It's incredibly colourful, cute, and

These two images are from the intro animation to the CD version of Zool and give you some idea...

...of how the extra CD storage space can be used to enhance an already complete game.

The actual game on the CD version will remain the same as the AGA version of Zool, however.

Probably the first ever compilation to include a game and its two sequels: Lotus 2 is the best.

unlike Sonic takes ages to complete. The A1200 version offered better-quality sound effects and gorgeous 256-colour graphics. CD32 Zool should be much the same, but with added ray-traced images, and further improved sound. Release is due 'later this year'

LOTUS TURBO TRILOGY

Original games reviewed AF17, 89%; AF29, 89% and AF40 76%

Lotus Turbo Esprit Challenge, a game so exciting and arcade-quality that it set the standard for all Amiga car racing games Of such good quality, in fact, that it spawned two sequels, each offering more features than the last. Lotus 2 is still the best arcade racing game there is on the Amiga, its two-player mode is second to none. Lotus 3 was too ambitious, and in offering tons of features, playability was lost.

Gremlin are to release all three games on one CD, with no significant improvements. Worth it for Lotus 2, but I reckon you won't play the other two very often.

In addition to those two games, Gremlin also have a list of games which are likely to be converted on to the CD32.

These are: Zool 2, Hero Quest 2: Legacy of Saracil, Litil Divil, Nigel Mansell's Grand Prix, Premier Manager, the sequel to Utopia (AF28, 84 per cent); and on top of all that a Star Trek game which is as yet unnamed.

Renegade 071-481 9214

URIDIUM 2

Andy Braybrook, the man who brought us the best Amiga game in Rainbow Islands (or so Marcus tells us), has almost finished the Amiga update of one of the best Commodore 64 titles – Uridium. A left-to-right scrolling blast-em-up, Uridium 2 retains the playability of the original but adds in lots of features to bring it up to date – more colours, more aliens, better weapons, smoother scrolling.

Andy hasn't completed the Amiga game yet and the disk version will have extras for A1200 owners, so the CD32 version is still some way off and won't be an awful lot different.

SENSIBLE SOCCER

Not only the best football game on any format, it's also one of the best Amiga games ever. Great attention to detail and stunning gameplay will ensure its place in the Amiga hall of fame for years to come. But what about a CD32 version?

Tom Watson of Renegade: ' Sensible Soccer CDTV version had actually been on the go for ages. Jim Mackonochie was at Commodore at the time and he was badgering us to do something for CDTV as they were trying to encourage people It was just cheap and cheerful, so the only thing that was changed was the sound, and then it was finished. Then the CD32 appeared, so now they're trying to master it at the moment in the US and hopefully it could be on the market in about a month's time "

THE CHAOS ENGINE

The Bitmaps' latest polished shoot-em-up scored a whopping 90 per cent in AF45. Great metallic graphics coupled with impressive sampled sound effects and phenomenal gameplay, particularly in two-player mode, make this one of the best shoot-em-ups to date. Tom Watson: "The Chaos Engine CD32 version is underway at the moment, and will probably be complete in about a month's time. It will have 256 colours, digitised speech, a big new front end... it looks the business. Just about everything we [Renegade] do will have a CD32 incarnation "

It's a while since a sexy shoot-em-up's appeared on the Amiga,, but Andy Braybrook's Uridium 2 will be something pretty special.

The CD release of The Chaos Engine will be the same excellent game but heavily updated with extra 256-colour graphics and lots of new sound.
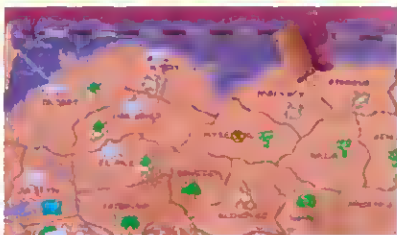
Diggers is an absolutely enormous game. The 34 levels which can be chosen from this map, when put together, add up to over 23,000 screens!

With a visual similarity to *Lemmings* and puzzle-action-strategy gameplay, *Diggers* will be one of the first few games ready for CD³².

Millennium
0223 844894

These boys are one of only two developers to have actually completed development of a game for CD³². This should make Diggers, described below, one of only a handful on sale when the machine is available in October, and clearly demonstrates Millennium's commitment to the machine.

DIGGERS

This is a mixture of adventure and strategy with mining as the main theme. Using on-screen menus to control the characters, you must send out a team of diggers to mine for treasure.

The gaming area is huge – 33 maps, each enormous and with several different types of terrain – and the graphics alone take up 10Mb of space. The object is to hit a target income level or defeat your opponents, and one of the most interesting aspects of *Diggers* is that it can be played in many different ways to achieve this end – you can be strategic or violent, depending on how you want to play it.

Elements of god games like *Populous* and a certain *Lemmings*-ness abound but it isn't really like either of them. This will be one of the first releases for the CD³².
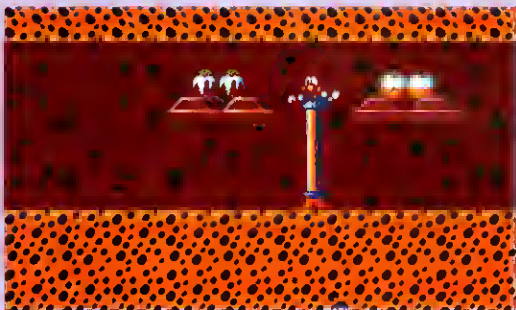
JAMES POND 3

Cheese. That's what *James Pond 3* is all about. Forget expando-o-suits and fish jokes, Pond's gone dairy-crazy. The secret agent's arch-enemy has begun mining the moon for cheese (cue clichéd storyline), and he's threatening to swamp the earth with cheese. The Amiga version is pretty, and on the A1200 it'll be prettier, but the definitive version will be on the CD³², with lots of extra noises too.

Possible future releases include *Rome AD92* (AF40, 77 per cent), and *Dino Worlds*, a new game which Keith Smith of Millennium told us is "going to be some way off, because it stank of bandwagon-jumping." Well, that's a first! With all the commotion regarding *Jurassic Park* recently (Jurassic Park stickers, cups, biscuits, bread rolls et al), it's nice to see a company put a dinosaur idea on the back-burner to avoid the hype. Well done, Millennium.

The original was a corker, the follow-up was even better. Now, in its third incarnation, *James Pond* is more than likely to be the best platform game available on any system. Let's hope so!

Krisalis
0709 372290
SOCCER KID

Hooray! The stunning platform game that reduced out Steve to a gibbering wreck (see the review on page 70 of this month's main mag) is to be converted to the CD³² platform – but not until some time next year. Little is known of the enhancements as yet, but Tim James of Krisalis told us: "Soccer Kid will really take advantage of the CD by including full broadcast-quality cartoon animation."

SABRE TEAM
Original game reviewed AF41, 87%
The men in black are due for a facelift when Krisalis release the CD³² version of *Sabre Team* in the Autumn. Apparently, a 'sabre team' is the SAS nomenclature for a four-man fighting group, which is pretty fortunate because that's exactly what Krisalis' game involves

It's a fairly strategic game, which relies more on your brains than your dexterity with a joystick, and the CD version will have twice as many levels as the original. Also, there will be new graphics, with animated sequences and digitised speech to introduce each mission. There are no graphics as yet, though, so you'll have to make do with a 32-colour screenshot.

MANCHESTER UNITED PREMIER LEAGUE CHAMPIONS

The third game on Krisalis' list is also the third in their *Manchester United* series of games, which, to be frank, haven't been very critically acclaimed so far. Still, let's not prejudge, because Krisalis are looking at the new game from a different angle (top-down, instead of left-right), and Tim promises that new features will be included the like of which has never before been done in a soccer game.

Soccer Kid – yet another top-scoring platformer!

SAS action with extra levels in CD³² *Sabre Team*.

Made for enthusiasts by enthusiasts, *Alien Breed* oozes quality in its looks and feel.

You wouldn't have said it was entirely original, exactly — but the *Streetfighter 2*-style *Body Blows Galactic* from Team 17 continues their reputation for quality 'homages' to top game genres.

Yet another platform game with a cute animal character, *Superfrog* is also a beauty.

Team 17

0924 2918672

BODY BLOWS GALACTIC (BB2)

Team 17's *Body Blows* marched in back in **AF**42 and gave the opposition a swift kick in the ribs. Large sprites coupled with excellent animated backgrounds and sampled effects helped to make this the best beat-em-up on the Amiga to date. *Body Blows Galactic* is the follow-up, with weird and heavily caricatured characters meeting for more fisticuffs. The CD³² version will be similar to the enhanced A1200 version with detailed back-drops, fast and smooth animation and great sound effects. It's due to be released in the early part of '94.

ALIEN BREED 2

Loosely based on the *Aliens* film theme, the original was a viewed-from-above blast-em-to-kingdom-come affair and a massive seller. Now it's back in this sequel where once again
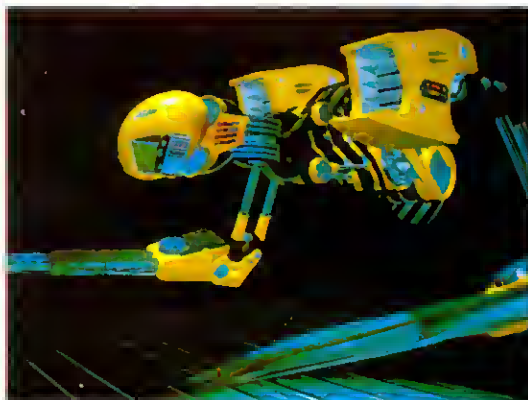
you take control of two federation personnel given the job of wiping out aliens in space. Enhanced graphics and sound, and more action and features should make this a big hit when it appears on CD³² in the early part of next year.

PROJECT X

Simply one of the best shoot-em-ups on the shelf, *Project X* is also from the incredibly consistent Team 17 stable. Loads of levels, great graphics and sound effects, together with non-stop action make this an Amiga classic and a possible for CD³² conversion in the not-too-distant future.

SUPERFROG

Billed by Team 17's Martyn Brown as a 'classic of the genre', *Superfrog* is one of the best platformers ever on the Amiga. He is actually a prince who looks like Shaggy from *Scooby Doo*, turned into a frog by a witch; and his quest is to fight through various levels to reach his princess. Along the way, Superfrog seems to consume even more Lucozade than Daley Thompson. The gameplay is polished and the graphics well designed, and Team 17 hope it will appear on the CD³² soon, though like *Project X*, its appearance is conjecture rather than solid fact.

One of only a few totally unknown quantities currently set for a CD³² release, *Rise of the Robots* has been created using ray-tracing software for a unique, graphically outstanding look.

Mirage

0260 299909

RISE OF THE ROBOTS

This one boasts a futuristic scenario so beloved of games through the years: it's set in Metropolis 4 inside the Electrocorp building where robotics are manufactured. The human workforce has been replaced by a robot called 'The Supervisor' who has gone doolally due to an ego virus, and the company has sent in a Cyborg (that's you) to sort out the situation. The Cyborg must battle against five different types of robots and then finally come up against The Supervisor, who represents the ultimate challenge.

Created using 3D modelling software which produces realistic ray-traced graphics, *Rise of the Robots* is set for a CD³² release in February '94. Look out also for *Return to the Lost World* which is likely to appear on CD³² towards the back end of '94

MICROCOSM

In a plot not dissimilar from the film *Fantastic Voyage*, the Cybertech Corporation have been blamed by competitors Axiom for the death of their President. So when Cybertech's Chief Scientist comes up with the idea of controlling the company through a manipulation chip in their own President's brain, Axiom's President Argen Stark sees a way of gaining control over his rivals. Time for you to head the counter operation.

With over 500Mb of graphic and sound data, 256 colours, and a Rick Wakeman soundtrack *Microcosm* should prove to be an audio-visual extravaganza. Sadly it seems that the gameplay has been neglected, making it a very ordinary shoot-em-up.

DRACULA

Psygnosis' other imminent CD-32 release is the film licence of *Dracula* where the plot roughly follows that of Coppola's movie. You play the role of legal chap Harker who hotfoots it to the Count's country pile to sort out some deal. Things go horribly wrong and the legal eagle ends up on the trail of Dracula with justice at stake (oh dear). With 500Mb of sound and graphics, and digitised animation and scenery operating at 20 frames per second *Dracula* utilises the technology of the machine to the full.

Psygnosis set out three years ago to make themselves in to 'Europe's premier producer of CD software'. While this makes for gorgeous, artist-produced graphics, there are doubts over *Microcosm*'s gameplay.
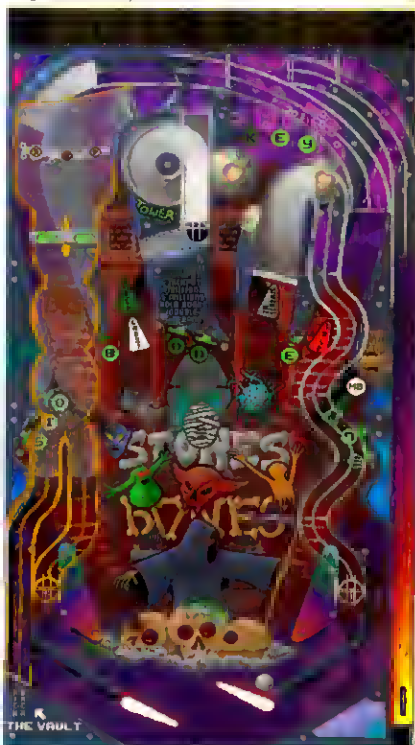
21st Century Entertainment   0235 851533

PINBALL FANTASIES

Oh no! Not again! What with receiving both a CD32 machine and a CD32 copy of *Pinball Fantasies* on the same day, our production editor's nightmare returns as we pile into the test room to view the immaculate scrolling (and we've got a big new telly) of this true-to-table, graphically stunning and quirky pinball game which plays even better in its latest guise. Our test disc only has the four *Fantasies* tables on it.

Mindscape 0444 246333

LIBERATION: CAPTIVE 2
The follow-up to last year's cult smash. Technically brilliant, this will be an RPG to behold on the Amiga, but on the CD^{32} it will have extra colours and even more features. Hurrah!

ALFRED CHICKEN
As if we haven't got enough cutesy characters, Mindscape are offering another one in the form of cute potential MP *Alfred Chicken* (see News, main mag). A cute, jolly platformer.

There are greater hopes for Psygnosis' second CD^{32} production, *Dracula*. This is the licence of the Coppola film version and incorporates deeper adventure-style gameplay, though it has been slated on the Sega format.

Liberation is the follow-up to the incredibly successful *Dungeon Master*-style adventure *Captive*.


Would you believe, yet another cutesy platform game coming out for CD^{32}? Yes, it's *Alfred Chicken*.

We reckon that's a bit stingy, and that 21st Century should also bung in the four *Pinball Dreams* tables, but we're told there wasn't the time 'cos it's out now.

PINBALL ILLUSIONS
The follow up to *Pinball Fantasies*, *Illusions* is still some way off – a year or so, and

will include a multi-ball feature, although how they'll pull that off remains to be seen.

Look out for an extremely thin edition of **Amiga Format** one month late next year.
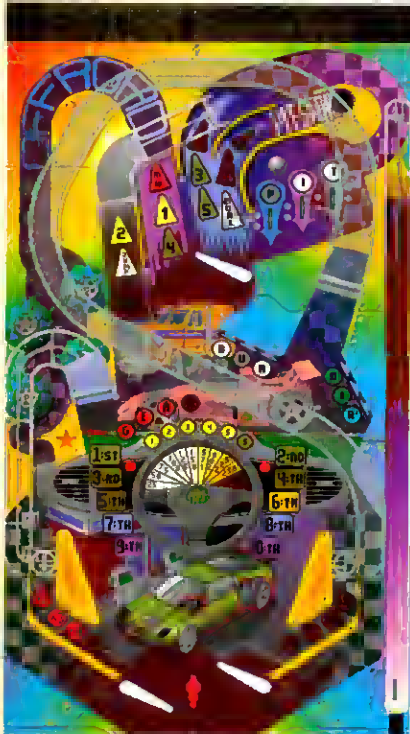
Ocean

061-832 6633

Ocean have committed themselves to the CD32 cause. Their Managing Director, David Ward, has gone on record as saying he's behind the new Amiga console all the way and comments "We believe that the CD32 is a machine with great potential. It allows an extra dimension of realism to be added to games with the 32-bit technology enhancing gameplay, and it's up software houses such as Ocean to provide buyers with a portfolio of games which will use CD32 to the full."

SLEEPWALKER

The game for Comic Relief '93, Sleepwalker, scored a massive 91 per cent (**AF**44) and was then followed by a much-improved A1200-specific version. The sleepwalker in question is a young chap called Lee. You are in control of his pooch pal Ralph and your job is to take care of the youngster as he somnambulates across town, invariably wading into dangerous situations.

An excellent mixture of platform action and puzzle challenge, Sleepwalker is humorous, playable and has excellent cartoon graphics. The CD32 version is the same as the A1200, which improved on both the sound and background graphics, but it's worth bearing in mind that money from this version will not go to Comic Relief.

BURNING RUBBER

We haven't seen too much of this one yet, but the impression we get is that it's an arcade-style car driving game very much along the lines of Gremlin's Lotus series. The challenge is to compete against the clock on real roads, not on a racetrack, and variables like the weather will have a big effect on the behaviour and handling of the car. It also adds a shop in which you can exchange money you've earned for go-faster bolt-ons.

RYDER CUP GOLF

Ryder Cup Golf is a sort of amalgamation of two Ocean golf games which are due for imminent release on floppy. The first, International Open Golf Championship is a detailed, ponderous 3D affair while Ryder Cup Golf is similar, only quicker and less

Taking up where Epic left off and hopefully going a good deal further, Inferno is one of two efforts from D.I.D. that add a fun scenario to 3D realism.

The other D.I.D. offering is T.F.X, which promises to be far more accessible than an ordinary straight flight sim and is also enhanced for CD32.

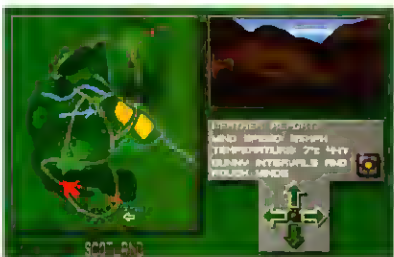detailed. For the CD32, Ryder Cup Golf will encompass the best points of both the floppy releases

T.F.X.(TACTICAL FIGHTER EXPERIMENT)

Shouldn't this have been called T.F.E.? Anyway, 3D specialists D.I.D. (that's Digital Image Design, to the uninitiated – the team behind F-29 Retaliator) have teamed up with Ocean to produce a sophisticated flight-sim set in a (surprise!) 3D landscape.
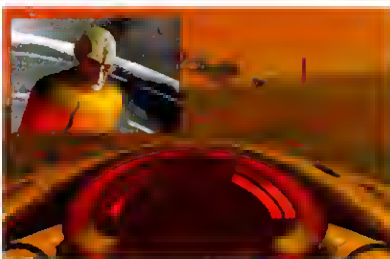
As a crack pilot with a UN rapid-response aerial force, you get into some awfully dangerous situations in various parts of the world. With 200 multi-objective missions to fly, you won't finish this before tomorrow lunch. And the good news is there will be a CD32-specific version of this featuring improved graphics

INFERNO (THE ODYSSEY CONTINUES...)

Another Ocean/D.I.D. joint venture, Inferno is a space simulator that claims to be set in a complex and detailed 3D environments. With seven planets and three moons, together with a plethora of hostile weather conditions, the galaxy is your oyster. In a game that basically takes the same T.F.X. theme into space.

Nothing too massively original is to be expected from Burning Rubber, but it looks like a decent real-road driving game with top-class presentation.

Ryder Cup Golf on the CD format will take the graphical appeal of Ocean's floppy-based International Open game and add extra speed and playability.

Sleepwalker will be based on the A1200 version, with its significant graphic and sonic extras. That's about the 10th excellent platform game for CD32.

Following up from one of the two big, colourful arcade-style games of last Christmas (the other one was Zool), Putty 2 should be a bit of a giggle.

The CD Putty 2 will be taken from the AGA model pictured here, which features lovely colourful graphics as well as an enhanced style of play.

System 3

081-864 8212
LAST NINJA

System 3 are converting the Last Ninja trilogy on to CD32, with all three games available on one disc. While the games are pretty similar in style, Last Ninja 3 is far and away the best. This was the first game which used the load system later featured in SWIV, that meant levels could be of almost limitless size, and it had some wicked cheat modes including an Aussie upside-down one

The last of the classic beat-em-ups before the arrival of Streetfighter 2 this year, Last Ninja 3 comes on a disc with both its prequels.

Supervision 071-702 9391
DONK!

This has undergone a change of name from Dong to Donk! since it appeared as a Coverdisk demo (AF45) and, apparently, a certain high-street retailer felt it was more than a little bit dodgy

Says Sue McCabe on behalf of the publishers, "Like any other company, we are interested in the CD format. We haven't got any CD games in production, although we will be encouraging Craig (The Hidden) to produce Donk! and other games for the format."

Now with a more parent-friendly clean name, Donk! is one of several upcoming Amiga releases that may or may not make it to CD in the end.

PUTTY 2

Originally titled Silly Putty until the licence was removed, Putty became one of the big games of Christmas last year. It was based on a simple idea – a small blob of putty hops, bounces and stretches around numerous worlds, trying to rescue its friends. Putty's graphics were its main strength, with lots of frames of animation just for the main character, but it featured some excellent puzzle-style gameplay too.

Putty 2 is based around a similar engine to the original, although from what we've seen so far the game screens will be less crowded and slightly less linear. An AGA version is planned, with the CD32 coming soon after. The screenshots you can see above are taken from the AGA version, and damned sexy they are too. Putty 2 will be released early next year.

ICE

0453 756993
AKIRA

Well, there's not a lot we can tell you about this licence of the amazing Japanese cartoon movie, basically because no plans have been finalised about the

Akira – the finest animated movie ever, and soon to be some kind of CD32 game...

style or content of the game yet. After twisting ICE supremo Stuart Bell's arm, we got him to admit that the game will feature a motorbike-racing section and plenty of blood and gore, but that's it, I'm afraid. Hopefully more details will come to light soon, but we can certainly expect a CD32 version of Akira early next year.

Virgin Games 081-960 2255
DUNE

Already, Virgin have created a game for PC CD-ROM that needs two CDs. Dune might not be quite that epic, but should be a movie-style corker, if it appears...

Virgin are playing a waiting game as far as developing for CD32 is concerned but Caroline Stokes says: "Nothing has been signed yet but we should be releasing Dune for CD32 with synchronised speech and flowing 3D for the travel sequences. But we've been bitten before with CDTV for which we invested a lot of money – it's a case of once bitten, twice shy. We're waiting to see if Commodore market the machine properly – if they do, and it sells, we'll definitely support it". Released in the Summer of last year, the ordinary Amiga version of Dune was a slickly drawn adventure strategy game but will be considerably revamped by the time it's released on CD32 with considerably enhanced sound and graphics.

From the ashes that was CDTV rises the phoenix-like CD32, Commodore seem to be aiming the machine at the right market, there's plenty of software support and the addition of digital video should make it a winner.

World dominat

The history of the Amiga and CDs is the story of Commodore's long-term plans to take over the world. **Damien Noonan** explains why CD32 is so vital, and what it means to the future of home electronic entertainment.

Tribal disputes of the 'my machine's better than your machine' variety may be common among us punters, but we're nothing compared to the firms who make the things.

Whenever a new technology appears, rival systems fight to the death. When VHS video recorders won out over Sony's superior Betamax system, it set a pattern which technology wars still follow.

The computer scene has seen some bloody fights: IBM's PC became the standard 'personal computer' for business, only to see sales of other makers' PCs far outstrip IBM's own. While on the games side a winner has yet to emerge – Nintendo never consolidated the early lead which saw their consoles in every fifth American household by 1988.

But it's been a while since Commodore were even contenders. The firm which created

the first pocket calculator and invented the personal computer with the KIM-1 in 1975, has struggled in the last decade Only by chance did they buy up the ready-made Amiga in 1984, and its success, especially in Britain, has sustained them through the total failure of their PC clones in the business market.

That failure almost sank Commodore, and now they have just one big last chance. That's why they're slashing the prices of Amigas, 600s at £199 and 1200s at £299 – it's to boost turnover and make quick cash to finance their ultimate bid for world domination – the CD Amiga.

Forward planning is everything if you make money from technology, and Commodore are past masters of soothsaying. They don't read goat entrails, though – it's regular

66 The early CDTV titles were more or less universally poor. Lemmings was ported straight over, Sim City had added hi-fi sound – both decent enough. Of all the reference books – none really stood out. The only titles that might have made a CDTV or CD-ROM drive worth getting were the PD collections, CD-PD, The Demo Collection, and the 17-bit disk with nearly 1,000 PD disks' worth on just one CD! 99

meetings of top people from around the world, gathered to discuss what will happen in three, four or five years' time, which guide their strategy.

They've had some pretty good people on the team – Jim Mackonochie, a world-respected CD expert who launched the world's first CD-ROM game, and Nolan Bushnell, who invented the first ever arcade computer game (Pong) and the first successful home games console, the Atari VCS

Their vision of the future – and this is the key to understanding the CD32 console – is that computer games systems, videos and hi-fis will all merge to create the all-in-one Home Entertainment System. And the key to that happening is having a single, common format – which CD now, finally, offers.

So hang on to your hats – Commodore are planning to

AMIGA FORMAT CD32 SUPPLEMENT PAGE 16

turn your Amiga into an all-in-one system that plays music, games or videos all from normal, common or garden five-inch CDs. That's why the CD32 is so very important.

When music went digital and the first CD players arrived (a 1982 innovation by Philips, fact fans) two things immediately became obvious: firstly, that a CD could store computer data too, and secondly, that people would soon want videos on CD as well.

The video route led only to the Laserdisc player, based on gold 12-inch discs, which caught on in the States but never made it over here and was actually analogue, not digital – a topic we'll return to.

Meanwhile, CD started a slow process of catching on for holding computer data. Its big advantage is that one disc holds up to 650Mb – equivalent to over 750 Amiga floppies – and yet costs only a little more to make than just one floppy.

Because a CD is pressed and then can't be altered, you can't save data to it, so it's a

attached to NEC's PC Engine, a 16-bit console which already had a million followers in its native Japan. The drive cost £400 on top of £199 for the console and a choice of 20 games was promised from 50 available in Japan, but the import never really caught on.

CD got exciting in January 1990 when rumours emerged of an Amiga CD Console – a keyboardless A500 variant. We expected something very similar to the fast-growing games consoles. Wrong! In June 1990, Commodore officially revealed the CDTV. It was a bit of a shock.

It was based on an A500 and CD-ROM drive, without a keyboard or floppy drive, which was what we expected. But it had an infra-red remote control to work it with, and it looked like a video recorder. Most peculiar.

It would be the first CD-driven games machine to go widely on sale in the UK. By now, CD-based games were all set to be The Next Big Thing. Masses of storage meant lots of animation, this would usher in

You want dinosaurs? Try CDTV! It was the world's first all-in-one CD-driven games machine, but Commodore wanted it to be the world's first 'home multimedia player', so it flopped. When it came out two years ago, it looked like the shape of the future – now, it seems like the dim and distant past.

play hi-fi tracks at the same time as game code, so old Amiga titles could be tarted up with real, studio-recorded theme tunes and sound effects.

CDTV also made sense of the term 'multimedia', which had been floating around for some years. Put into practice by reference books on CD, multimedia meant that a CD encyclopaedia could not only have text to describe the entries, but also pictures, a soundtrack or even animation. Multimedia books were here

a software base of about 60 titles. It cost £699 with two discs free, Lemmings and the Hutchinson Encyclopaedia. Two years on, total sales in the UK have failed to reach 30,000 in a period in which the Amiga has sold more than 300,000.

"If we had been more realistic then perhaps we wouldn't have felt disappointed, but as it was we had ambitions above our station," confessed Commodore's then UK boss, Kelly Sumner, in April this year.

ion enterprises

read-only system – read-only memory, or ROM, in computer jargon. Before long, uses for CD-ROM were found in business and professional situations and disc drives that could run them became available for PC compatibles. An example of their use is that newspapers like The Guardian started pressing CDs containing all the text from a year's worth of the newspaper.

By early 1989, it was estimated that 100,000 CD-ROM drives were in use attached to PCs worldwide. Not many, but enough for Microsoft, the Robert Maxwell-owned software house that expired with its owner, to launch the world's first CD-ROM game in March of that year. Defender of the Crown on CD was identical in graphics and gameplay to the existing PC version, but with improved stereo hi-fi sound – a pattern repeated in the first Amiga CDs.

Only a month later, the first games-specific CD-ROM drive went on sale in the UK. It

a new era of mega-epic games that would claim the title 'interactive movies'. Indeed, both software houses and movie makers were known to be planning for this, with game-makers like Lucasfilm and Cinemaware showing the way.

Everyone knew CD games of this scale would take a while to develop, but in the meantime CDTV had other advantages. It could play hi-fi CDs and also

CDTV also brought glimpses of a greater multimedia future, such as CD-Gfx music discs from Warner, which included basic computer graphics on a music CD. The world's first viable CD games machine, and more besides – it sounded pretty good.

But CDTV failed. It finally started selling in May 1991, having taken a year to iron out operating wrinkles and develop

Indeed. So what went wrong?

One sound marketing strategy would have been to work through the 'installed base' of existing Amiga owners, slowly building up a CD following. But no. Instead, Commodore distanced CDTV from the Amiga, insisting that software should be called 'titles' not 'programs', continued overleaf ➡
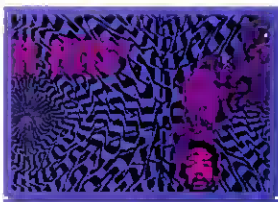
Warner Brothers, music publishers, came up with the brilliant idea of squeezing small amounts of computer data on to music Compact Discs, meaning that on a CDTV or CD-I system you could have wild graphics accompanying Jimi Hendrix, or the lyrics of your opera translated for you.

Oh there's a stranger Standing in the shadows of love
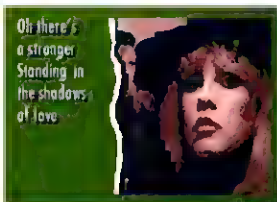
Because nobody bought CDTVs or CD-Is, the idea hasn't yet caught on, but it's about to. CD32 can play these discs, and the music publishers like it because they see the added extra of graphics as an ideal way of claiming that their overpriced CDs are still good value, thus justifying their excessive pricing.

Commodore promised that A500 owners would be able to get access to CDTV discs, but by the time the A570 CD-ROM drive for the A500 arrived, not only did the CDTV look dated, but the A500 did too. Not surprisingly, hardly anyone bought one of these at the asking price of £350.

ensuring CDTV was displayed away from the computers in shops, refusing to send a review model to Amiga Format.

The price, even when dropped to £599 for Christmas 1991, and the spec were all wrong. CDTV still cost £200 more than the standard Amiga 500, while a keyboard and a floppy drive, to use it as an Amiga, would cost £50 and £70 respectively – total about £720. In October 1991 the A500 Plus, with Workbench 2, appeared, and already the Workbench 1.3-equipped CDTV felt like a bizarre white elephant.

But anyway, Commodore never tried to make CDTV appeal to Amiga owners. Instead, they tried to sell CDTV as 'a new kind of home entertainment system'. The strategy was utterly doomed.

"This will change forever the way we communicate, learn and entertain," claimed Commodore's CEO Irving Gould at CDTV's launch. "The system will be used for reference works, music, entertainment – and once we abandon the high ground, it will play one hell of a game!" trumpeted Nolan Bushnell.

Commodore seemed to believe their own hype and made it their marketing campaign. At Christmas 1991, a massive, flowery and expensive ad campaign, on TV and in the quality Sunday newspaper magazines, used the slogan 'It's nothing short of revolutionary' accompanied by vague images of an interactive TV idea which, unsurprisingly, meant nothing to anyone. It didn't work

The following year, Philips made a slightly better job of exactly the same idea when they launched their CD-i sys-

tem. CD-i had been under development for years at a cost of millions upon millions of pounds – when it came out, it proved to be a Motorola 68000-based CD games and multimedia machine that also played hi-fi CDs, pretty much the same as CDTV.

CD-i's better graphics and better software showed up CDTV's weaknesses, and Philips' billboard advertisements, showing a telly ripped in half with the slogan 'Without CD-i, you're only using half of it' worked on the interactive TV theme well. But has it sold? Certainly not yet.

By early 1992 the CDTV had been cut in price to £499, then repackaged, complete with keyboard and disk drive, as the Amiga CDTV Home Multimedia Kit. In the middle of last year, the A570 CD-ROM drive which enabled the A500 to play CDTV discs, went on sale at £350, but it was all too little, too late.

At the bottom line, CDTV didn't work simply because it was only half a system. Until CD video arrives, this kind of venture just won't work – the difference between Commodore and Philips is that I suspect Philips know this, and floated CD-i early to let them experiment and build up a games software base

Since CDTV, though,

Commodore have done everything so absolutely right, building a strategy that has gradually unfolded before our eyes, that it's almost too good to be true. It's been perfect.

First come the A600. This introduced greater miniaturisation and use of Surface Mount Technology, both of which made Amigas much cheaper to manufacture. Very important

Then came the A1200. A faster, 32-bit processor and a new chipset, the latter, very significantly, bringing 256-colour VGA-style graphics, fast becoming a de facto standard Significantly, the EC68020 and AGA chipset would not be markedly more expensive than the 68000 and the ECS chipset In the A600.

Meanwhile, everything else was working in Commodore's favour. The price of CD drives was coming down, making them almost as cheap as floppy disk drives. By October last year, with Sumner was dropping hints to us in private that an AGA-equipped, CD-driven machine could be produced for around the price of the A600.

At the same time in America, the development team were finishing the A1200 and starting to concentrate on the CD^{32} console.

One last factor managed to seal it. Games software houses had benefited immensely from the Sega/Nintendo boom of the previous two years, especially the fact that cartridges were pretty much piracy-proof. This made them realise how much they disliked floppy disks and how much piracy cost them on Amiga games.

Yet cartridges too had their problems. Because they're basically hardware – the game's on a chip – they are very, very expensive to make. Build more than you sell, and over-ordering by even five per cent could wipe out your profits.

CDs now seem the right way to go, as far as most software houses are concerned. They're cheap and quick to make, hold stacks of data, and are much less open to piracy. Bingo!

And so, in July 1993, the launch of the Amiga CD^{32} console. CD-driven, AGA-equipped with full 32-bit architecture and costing only £299, it's everything CDTV should have been. It's a beauty. But it's not the end of the story.

CD video became a reality in June this year, when the world standard for digital video was set. The Motion Picture Expert Group (MPEG), a research organisation sponsored by the likes of Sony, Philips and Matsushita, has made available a set of chips, known as the MPEG1 standard, which all makers can

incorporate into CD players so that they run video.

Until now, the revolution that made music go digital has not been possible. The problem is that video needs more data, more quickly than a CD drive can possibly supply it. The answer is to compress the data, squirt it off the drive, then decompress it to display the pictures. This is what the MPEG1 chips do. The result is that a normal five-inch CD can now store 74 minutes of genuine video

By October, Commodore reckon they will have the MPEG add-on for CD^{32} ready – it will cost about £200, which is almost exactly the same as an MPEG add-on for CD-i or many other systems will cost. Philips have done a deal with Paramount to release 50 films on CD, other similar deals will follow – all these video discs will play on the Amiga CD^{32}. By Christmas, if all goes to plan, you will be able to buy Commodore's all-in-one music, video and computer games Home Entertainment System for a total of £500

Where does that leave Commodore World Domination Enterprises? Well, it could just leave them in pole position on the grid

There will be an abundance of CD video systems. All CD players with a bitstream output will be able to be hooked up to an MPEG video adaptor and play videos, while CD-i will be joined by other complete Home Entertainment Systems as well as specific CD video players. And you and me, Joe Public, will have an enormous range of choice

Commodore have one telling advantage. Anyone can make a CD video and audio player, and it's not a big step to add a computer game system too. But the Amiga has been playing games for seven years now and, I think you'll agree is pretty good at it.

Look at it this way. Those poor people who never had an Amiga will now be able to buy a combined video player and hi-fi CD player for £499, and also get the best ever Amiga games machine thrown in for free. It's such a good proposition, it doesn't even bear thinking about.

Not only the best games machine ever produced, but also the best of a new generation of audio-video players? It sounds like a dream ☺

The Amiga CD^{32} could help Commodore put the Amiga name back in the limelight. We ask David Pleasonce, Commodore's general manager, how the future looks to him...

A pleasant surprise...

Pleasance : "People are going ga ga at the superiority of the new CD^{32}."

℧ **The CD^{32} seemed to almost be a relief to people because Commodore have at last done the right thing.**

DP Don't forget it's the Amiga CD^{32} – the Amiga bit is very important – the name is worth more than the company.

Yes, it's excellent, and we've manufactured 30,000 units already! But we've come under a lot of flak, particularly from developers, because we didn't let them in on the secret. We kept it to a handful of people because we didn't want to let the opposition know what we were doing.

However, at the press launch we gave plenty of developers the chance to sign up. For the official launch of the machine – 20 August – we've got 18 titles ready, which is pretty impressive

℧ **Are you going to mount the software with the hardware in High Street stores like Dixons and Comet?**

DP We're looking at stands at the moment.

℧ **How soon can we expect to see the FMV (full motion video) add-on?**

DP September. It's tremendous.

℧ **And when can we expect the software for that, soon afterwards?**

DP What's interesting is that all the software that's just been commissioned by Philips – written under MPEG 1– will be compatible with our machine. But the most significant thing is going to be full motion video audio CD. That's going to be the next big thing. When you see what you can do on this machine with CDXL without using HAMB, it's amazing! We have 16.8 million colours, the quality is better and the data transfer is much faster than the competition.

℧ **Which consoles are the real competition for the CD^{32}.**

DP Well the competition are spending an awful lot on advertising. And our plan is to ride on the back of it – we want them to make the nation aware that the CD platform exists. We want to drive people into the stores to look at it and then make their choice. And there is no comparison – our product is five-six times more powerful.

℧ **Last year Commodore talked of 12-20 AGA games by Christmas - we haven't even seen that many yet. Are you confident that the CD^{32} will have 18 at launch? And what do you think by Christmas?**

DP We went to many software houses and said 'Right what we want you to do is write for the new CD product' To others we said there's going to be a A1200 add-on device

What we thought was going to happen was that they would produce for the A1200 and then they would carry on and do more for the CD product.

Well, they all started working on the CD product, and when that was finished they planned to cut down on to floppy So we made a mess of that because we didn't specifically tell them what we needed. But, at least all that is coming to bear fruit on the new product.

Also I think some software companies were reluctant to develop on the Amiga because piracy is so rife in Europe. You know they produce a game and when they ship it, they're lucky if they get 30,000 units out of it, which is obscene when you consider that here in the UK alone there are 1.5 million Amiga owners

But with CD^{32} it does cut out piracy because unless you've got 150 floppies to down load on to, piracy is completely impractical. So what CD^{32} does mean for software

houses is that every unit they sell is a real sale. So there's a lot of confidence out there, and I'm sure there will be plenty of development.

℧ **Can we expect a CD add-on for the A1200?**

DP Yes, but not until after Christmas Theoretically we could do it straight away, but with the cash flow problem at the moment our work is cut out with producing machines. We'd like to see 600,000 machines in Europe by January and to do that we're going to need all of our resources.

℧ **The cash flow problem - is it a States-side problem, or one in the UK?**

DP We can't separate ourselves from our parent company. The cash problem is one of the reasons we made the £299 price point move on the A1200 because that will turn a lot of stock into cash. It also means that the A1200 and the Amiga CD^{32} will not be so competitive with each other.

℧ **Will the CD^{32} be launched in the States?**

DP At this stage it's unlikely – certainly not in this quarter. We don't have much of a retail presence in the US. It's something that we completely laid down, kicked our legs in the air and let ourselves get raped on several years ago.

The dilemma we have is it's so expensive to do any kind of a launch program over there. It would cost around $25 million. You've got to sell a hell of a lot of machines to justify that expenditure and it's a big risk II we get Europe right, once we're stronger in 1994 we will look at this whole thing again.

℧ **What would happen if Sega were to price aggressively against CD^{32}?**

DP I don't think it would make a lot of difference. We know that their Mega Drive is going to be £99, we don't see them being able to move the price on the CD machine because, like our product, it's mainly from a Japanese source. But if they do, they're not going to have the budgets to advertise.

℧ **They've never really made their money on hardware, have they?**

DP No, but they're not even going to make a lot of money out of CD software – and they haven't got a lot of product

℧ **Most CD software seems to be just cartridge ports**

DP Yeah, so why buy a Mega CD? They're shooting themselves in the foot. I think the main thing people want is really good playability, really good power. They will see that on our machine. We've been looking at the Mega CD and our CD^{32} side-by-side, the people who were sceptical have just gone away go-ga because there is such a big difference.

32-bit is such a distinct advantage and we've also got the dual speed drive. At the moment it's £369 for the Mega CD and the Mega Drive is another £100. We're talking £299 for a 32-bit stand-alone machine. So there's no way Sega can compete.

Tom Kalinske, Sego's US president of sales said in June. "We could bring a 32-bit console out tomorrow... but the problem is the price – and I don't think that problem will be solved this year or next year". I think that says it all.   ℧